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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,176	10/03/2003	Andrew Ording	7394-0032	2296

7590 11/15/2004

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EXAMINER

BELLINGER, JASON R

ART UNIT PAPER NUMBER

3617

DATE MAILED: 11/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/679,176

Applicant(s)

ORDING ET AL

Examiner

Jason R Bellinger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 7-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,6 and 16-21 is/are rejected.
- 7) ☒ Claim(s) 4 and 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/2/04.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

***Election/Restrictions***

1. Applicant's election without traverse of species I, drawn to Figures 1-9, in the reply filed on 29 September 2004 is acknowledged.

2. Claim 14 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 29 September 2004.

It should be noted that claims 7-12 contain subject matter that is not drawn to the elected embodiment. Specifically, claims 7-10 include the limitation that the surface features of the wheel are "multi-sided polygonally shaped" depressions (such as that shown in nonelected Figure 12). As shown in Figures 1-9, the elected embodiment is drawn to a wheel having circular "depressions". Claims 11-12 depend from claim 10. Therefore, claims 7-12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim.

It should further be noted that claims 13 and 15 contain subject matter that is not drawn to the elected embodiment. Specifically, claims 13 and 15 include the limitation that the surface features of the wheel are "radially extending" and "have multiple shaped and radial extents", respectively (as shown in nonelected Figures 10-11). As shown in Figures 1-9, the elected embodiment is drawn to a wheel having circular "depressions". Therefore, claims 13 and 15 are withdrawn from further consideration pursuant to 37

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CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim.

***Priority***

3. It is noted that this application appears to claim subject matter disclosed in co-pending Application PCT/US03/31669 filed 3 October 2003. A reference to the co-pending application should be inserted as the first sentence of the specification of this application

***Information Disclosure Statement***

4. The information disclosure statement filed 2 March 2004 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each foreign patent. It has been placed in the application file, but the all of the information referred to therein has not been considered. No copy of FR 2583680 was provided.

5. Furthermore, the reference set forth as 4,994,675 was not considered, due to the fact that it is not issued to Tsai on the date stated in the IDS.

***Drawings***

6. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the wheel having a brake engaging portion and tire engaging portion are formed separately from the first

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and second air engaging side surfaces, as set forth in claim 5, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

7. The drawings are objected to under 37 CFR 1.83(a) because they fail to show the surface features being depressions as described in the specification. As shown in Figures 3-7 appear to show the surface features as through holes, and Figures 10-12 do not show any indication of depth for the elongated surface features.

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Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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9. Claims 1-3, 6, and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Klieber et al. Klieber et al shows a wheel 1 having a tire engaging portion 4 located at the outward perimeter of the wheel 1, an inner portion located radially inward from the tire engaging portion 4, and first and second air engaging side portions 6 that extend radially between the inner portion 5 and the tire engaging portion 4. The first and second air engaging side portions 6 form first and second sides of the wheel 1, and are axially opposed to each other. Both air engaging side surfaces 6 contain a plurality of surface features designed to create a turbulent boundary layer when the wheel travels through air to reduce aerodynamic drag.

The inner portion is a hub 5. The hub 5 is separately fabricated from the first and second air engaging side surfaces 6, and connected at the center thereof. The inner portion 5 includes a plurality of surface features. The wheel 1 is disc shaped, and includes a valve stem receiving aperture 25.

### ***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Klieber et al in view of Drews. Klieber et al contains all of the limitations set forth in paragraph 8 above, but does not show the surface features being protrusions from the air engaging

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side surfaces. Drews teaches the use of a wheel 2 having air engaging side surfaces that are provided with protrusions 22. Therefore from this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the wheel of Klieber et al with protrusions on the side surfaces to decrease the amount of drag created while the wheel is rotating.

12. Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klieber et al in view of Blood. Klieber et al contains all of the limitations set forth in paragraph 8 above, but does not show the surface features being circular shaped depressions. Nor does Klieber et al specify that the surface features are design so that when the wheel moves through a body of air, the boundary layer separates from the side surfaces closer to the trailing edge of the wheel than a wheel lacking surface features. Blood teaches the use of an air engaging side surface 34 having circular shaped depressions 21, which reduce drag and would cause a boundary layer to separate from the surface 34 closer to a trailing edge than a surface lacking the depressions 21. Therefore from this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the wheel of Klieber et al with circular protrusions on the side surfaces to greatly reduce the amount of drag created while the wheel is rotating.



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***Allowable Subject Matter***

13. Claims 4-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references are considered to show wheels having side surfaces for reducing drag. For example, McEachern shows a wheel of the type described above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason R Bellinger whose telephone number is 703-308-6298. The examiner can normally be reached on Mon - Thurs (9:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Morano can be reached on 703-308-0230. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jason R Bellinger  
Examiner  
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